December 8, 2009

Mr. Frank Zeng, P.E.
MC-124
Municipal Solid Waste Permits Section
Waste Permits Division
Texas Commission on Environmental Quality
PO Box 13087
Austin, TX 78711-3087

Re: Twin Oaks Landfill – Grimes County
Municipal Solid Waste – Permit No. MSW-2292
Permit Modification –Subchapter J and Water Supply Wells
Tracking No. 12840772; RN100630458 / CN600340194

Dear Mr. Zeng:

We have reviewed your comments regarding the proposed municipal solid waste permit modifications for the Twin Oaks Landfill dated in an email sent November 10, 2009. The modification request has been revised as requested and updated portions are attached.

Below are the specific comments followed by our response:

1. After reviewing the response to Comment No. 3, it seems that the number of organics background samples should also be eight as for inorganics.

   Response: *The number of organic background samples has been changed from 4 to 8.*

2. Please consider the scenarios for organics background results: a. no detections above the reporting limits; b. some detections above reporting limits but not enough data for statistical analysis; and c. enough data for statistical analysis.

   Response: *Section 4.6 of the Groundwater Sampling and Analysis Plan has been revised to discuss the background results of organics.*

HDR Engineering, Inc.
4500 West Eldorado Parkway
Suite 3500
McKinney, TX 75070-5757
Phone: (214) 733-5900
Fax: (214) 733-5950
www.hdrinc.com

3. Please also change "verifying" to "determining" in the second sentence of the first paragraph.

Response: *The language of Section 4.6 in the Groundwater Sampling and Analysis Plan has been updated.*

Attached are revised documents incorporating the changes described above. One original and one unmarked copy is included along with one version in redline/strikeout format to facilitate your review of the changes. An additional unmarked copy is being sent to the Texas Commission on Environmental Quality Region 9, (Attention of Mr. Frank Burleson, Waste Program Manager, 6801 Sanger Ave., Ste. 2500, Waco, TX 76710-7826). Also, included is a Part I Form Signature Page.

Sincerely,
HDR Engineering, Inc.
Texas Registered Engineering Firm F-754

Michael W. Oden, P.E.
Project Manager

Attachments: Part I Form Signature Page
Attachment 11 (pages: 15-16)

cc: Mr. Pete Caler - BVSWMA
Ms. Samantha Best - BVSWMA
Mr. Jay Marcotte - City of Bryan
Mr. W.R. Cullen, P.E. – CSC Engineers and Environmental Consultants
Mr. Frank Burleson – TCEQ Regional Office Waco

Part I Form

Signature Page

Signature Page

I, PETE CALER (Operator), BVSWMA EXECUTIVE DIRECTOR (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 8 DEC 09

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____ (Print or Type Operator Name), hereby designate _____ (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

SUBSCRIBED AND SWORN to before me by the said Pete Caler

On this 8th day of December, 2009

My commission expires on the 16th day of February, 2011

Notary Public in and for

Brazos County, Texas

(Note: Application Must Bear Signature & Seal of Notary Public)

Modified Text – Blackline Version

Part III

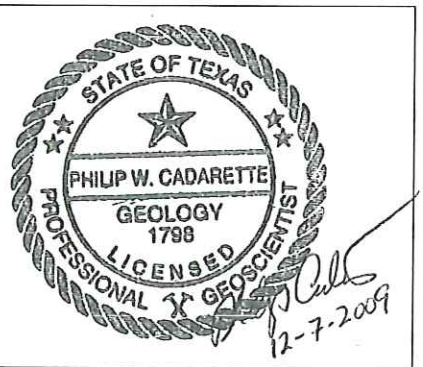
Attachment 11

Groundwater Sampling and Analysis Plan
Permit Amendment – MSW No. 2292

for

Twin Oaks Landfill,
Grimes County, Texas
Permit Issued January 12, 2005

Revised December 2009



This document is released for the purpose of review only under the authority of Philip W. Cadarette, PG. # 1798. It is not to be used for bidding or construction.

For pages i thru ii

BVSWMA Twin Oaks Landfill
Part III, Attachment 11
Groundwater Sampling and Analysis Plan

Table of Contents

BVSWMA Twin Oaks Landfill
Part III, Attachment 11
Groundwater Sampling and Analysis Plan

Table of Contents

List of Appendices

days after the last groundwater monitoring event in a calendar year. Results are to be submitted on TCEQ Form TCEQ-0312 with all appropriate heading information completed or on any alternative form prescribed by TCEQ. The form may be reproduced with the items in the same order, but with modifications to allow ease of typing or computer printing. Submittals must include hard paper copies and suitable electronic format. A text discussion of the monitoring results will be helpful in the interpretation of the data and can be attached to the report form.

Every submittal (including the cover letter) will be provided to TCEQ in triplicate — one original and two copies. The original will be filed in TCEQ Central Records in Austin, one copy is sent to the appropriate regional office, and one copy is used as a working copy by the MSW Permits Section staff.

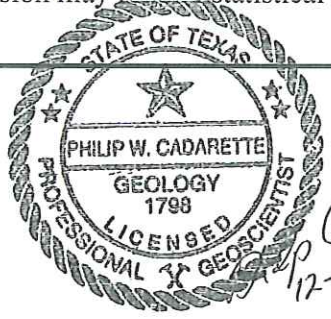
4.6 Water Supply Wells

Eight (8) statistically independent samples for inorganics and eight (8) statistically independent samples for organics will be collected and analyzed to establish background groundwater quality from any existing or new water supply wells onsite.

Background sampling for inorganic constituents shall be conducted on a quarterly basis for a two (2) year period (a total of eight sampling events). Background sampling for volatile organic constituents will be conducted on a semi-annual basis for a period of two (2) years. This time interval has been selected to assure that the samples are statistically independent and allow the hydraulic and chemical stabilization of the formation. The extended sampling period will allow collection of groundwater data during various seasons of the year and accommodate seasonal and temporal changes that are inherent to groundwater quality. The respective background sampling events have been selected based on information developed by Dr. Robert D. Gibbons (biostatistician with the University of Illinois Chicago) for intrawell comparisons.

For organic monitoring parameters for which less than 10% of the data from background samples equal or exceed their respective MDL, the concentration limit shall be the PQL. Statistical concentration limits shall be based on historical background data. Prior to calculating concentration limits, the historical data shall be screened for trends to ensure that the data used is of a single statistical population. For organic monitoring parameters for which the data from background samples have enough data for statistical analysis either Prediction Intervals, Confidence Intervals, or Control Chart method will be used. The type of method that will be used will be dependent on the results of the background sampling events.

Upon completion of background analysis, the data will be evaluated statistically and background concentrations will be established for each parameter. The background sample analysis may also be reviewed by the Commission for indications of potential contamination based on historical data and other information about the site. The Commission may require statistical analyses using



ANOVA or other appropriate methods, during background sampling to help determine if contamination may be present.

Any on-site groundwater well used to supply water will be sampled and tested annually after establishment of background. The well will be purged until the field parameters outlined in Section 2.7 are stabilized and then the well will be sampled. The sample will be analyzed for the Detection Monitoring constituents listed in Appendix 11C. The results will be reported to the TCEQ along with the annual report as discussed in Section 4.5.

Once background concentrations have been established for each parameter, samples collected from the water supply well will be collected, analyzed and compared to the background concentrations to determine whether there has been an apparent statistically significant increase (SSI). An SSI occurs when the concentration of a monitored constituent is higher than its background concentration. If a determination is made that an apparent SSI exists in any water supply well, the apparent exceedance will be reported to the TCEQ and any local pollution agency with jurisdiction that has requested to be notified, within 14 days after the initial determination. An apparent SSI may be confirmed by collecting a verification sample from the affected well. The verification sampling and reporting must be completed within 60 days of determining an apparent SSI. The resampled data may be used to statistically confirm or disprove an apparent SSI. Within 14 days of confirming or disproving an SSI, the Twin Oaks Landfill shall notify the TCEQ and any local pollution agency that has jurisdiction and has requested to be notified. The determination of and responses to SSIs shall comply with 30 TAC §330.407(b). If the SSI is disproved, the site will continue monitoring the wells. If the SSI is confirmed, the well will be put into Assessment Monitoring (30 TAC §330.409) or an Alternate Source Demonstration (ASD) will be prepared (30 TAC 330.407(b)).

An ASD will be prepared if there is reasonable cause to believe that a source other than a landfill unit caused the contamination or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality, then BVSWMA will submit a report providing documentation to this effect. The ASD will be submitted within 90 days of determining any SSIs. If the ASD does not make a demonstration satisfactory to the executive director within 90 days after the date of the notice to the executive director, BVSWMA will initiate an assessment monitoring program as required in 30 TAC 330.407(b)(1).

Installation and operation of any water supply wells must comply with all applicable TCEQ rules and other local, state and federal requirements. Any well found to not be in compliance will be corrected or plugged and abandoned.

5.0 ASSESSMENT MONITORING

The occurrence and confirmation of an SSI from background for a Detection Monitoring constituent at a sampling event, and a confirmation by one or two verification sampling events or

Modified Text – Redline/Strikeout Version

Part III

Attachment 11

Groundwater Sampling and Analysis Plan
Permit Amendment – MSW No. 2292

for

Twin Oaks Landfill,
Grimes County, Texas
Permit Issued January 12, 2005

Revised ~~November~~ December 2009

This document is released for the purpose of review only under the authority of Philip W. Cadarette, PG. # 1798. It is not to be used for bidding or construction.

For pages _____ thru ____

days after the last groundwater monitoring event in a calendar year. Results are to be submitted on TCEQ Form TCEQ-0312 with all appropriate heading information completed or on any alternative form prescribed by TCEQ. The form may be reproduced with the items in the same order, but with modifications to allow ease of typing or computer printing. Submittals must include hard paper copies and suitable electronic format. A text discussion of the monitoring results will be helpful in the interpretation of the data and can be attached to the report form.

Every submittal (including the cover letter) will be provided to TCEQ in triplicate — one original and two copies. The original will be filed in TCEQ Central Records in Austin, one copy is sent to the appropriate regional office, and one copy is used as a working copy by the MSW Permits Section staff.

4.6 Water Supply Wells

Eight (8) statistically independent samples for inorganics and ~~four~~ eight (48) statistically independent samples for organics will be collected and analyzed to establish background groundwater quality from any existing or new water supply wells onsite.

Background sampling for inorganic constituents shall be conducted on a quarterly basis for a two (2) year period (a total of eight sampling events). Background sampling for volatile organic constituents will be conducted on a semi-annual basis for a period of two (2) years. This time interval has been selected to assure that the samples are statistically independent and allow the hydraulic and chemical stabilization of the formation. The extended sampling period will allow collection of groundwater data during various seasons of the year and accommodate seasonal and temporal changes that are inherent to groundwater quality. The respective background sampling events have been selected based on information developed by Dr. Robert D. Gibbons (biostatistician with the University of Illinois Chicago) for intrawell comparisons.

For organic monitoring parameters for which less than 10% of the data from background samples equal or exceed their respective MDL, the concentration limit shall be the PQL. Statistical concentration limits shall be based on historical background data. Prior to calculating concentration limits, the historical data shall be screened for trends to ensure that the data used is of a single statistical population. For organic monitoring parameters for which the data from background samples have enough data for statistical analysis either Prediction Intervals, Confidence Intervals, or Control Chart method will be used. The type of method that will be used will be dependent on the results of the background sampling events.

Upon completion of background analysis, the data will be evaluated statistically and background concentrations will be established for each parameter. The background sample analysis may also

be reviewed by the Commission for indications of potential contamination based on historical data and other information about the site. The Commission may require statistical analyses using ANOVA or other appropriate methods, during background sampling to help determine if contamination may be present.

Any on-site groundwater well used to supply water will be sampled and tested annually after establishment of background. The well will be purged until the field parameters outlined in Section 2.7 are stabilized and then the well will be sampled. The sample will be analyzed for the Detection Monitoring constituents listed in Appendix 11C. The results will be reported to the TCEQ along with the annual report as discussed in Section 4.5.

Once background concentrations have been established for each parameter, samples collected from the water supply well will be collected, analyzed and compared to the background concentrations to determine whether there has been an apparent statistically significant increase (SSI). An SSI occurs when the concentration of a monitored constituent is higher than its background concentration. If a determination is made that an apparent SSI exists in any water supply well, the apparent exceedance will be reported to the TCEQ and any local pollution agency with jurisdiction that has requested to be notified, within 14 days after the initial determination. An apparent SSI may be confirmed by collecting a verification sample from the affected well. The verification sampling and reporting must be completed within 60 days of determining an apparent SSI. The resampled data may be used to statistically confirm or disprove an apparent SSI. Within 14 days of confirming or disproving an SSI, the Twin Oaks Landfill shall notify the TCEQ and any local pollution agency that has jurisdiction and has requested to be notified. The determination of and responses to SSIs shall comply with 30 TAC §330.407(b). If the SSI is disproved, the site will continue monitoring the wells. If the SSI is confirmed, the well will be put into Assessment Monitoring (30 TAC §330.409) or an Alternate Source Demonstration (ASD) will be prepared (30 TAC 330.407(b)).

An ASD will be prepared if there is reasonable cause to believe that a source other than a landfill unit caused the contamination or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality, then BVSWMA will submit a report providing documentation to this effect. The ASD will be submitted within 90 days of ~~verifying~~ determining any SSIs. If the ASD does not make a demonstration satisfactory to the executive director within 90 days after the date of the notice to the executive director, BVSWMA will initiate an assessment monitoring program as required in 30 TAC 330.407(b)(1).

Installation and operation of any water supply wells must comply with all applicable TCEQ rules and other local, state and federal requirements. Any well found to not be in compliance will be corrected or plugged and abandoned.